

REMARKS

Claims 1-17 stand rejected under 35 U.S.C. §102(b), for anticipation by U.S. Patent No. 4,702,574 to Bawa. Claims 1, 2, 10-13, 16 and 17 stand rejected under 35 U.S.C. §102(b), for anticipation by U.S. Patent No. 4,472,479 to Hayes et al. Applicants respectfully traverse these rejections for the following reasons.

The present invention is directed to a coating composition for applying to a substrate. The coating composition reflects colored light and emits fluorescent light. The coating composition includes two layers: an upper layer that includes a resinous binder and colorants that emit fluorescent light when exposed to visible light and a lower layer that includes a resinous binder and light absorbing particles. At a first light level, the coating composition has a first colored appearance that is dominated by the absorbance of light by the colorants of the upper layer and the light absorbing particles in the lower layer. At a second light level (e.g., greater intensity of light), the coating composition exhibits a different colored appearance that is dominated by the fluorescent light emitted by the colorants in the upper layer. The absorbance of light by the light absorbing particles in the lower layers is overcome by the dominance of fluorescence light as emitted by the colorants of the upper layer.

The present invention also includes a method of creating a color effect using this coating composition. By providing that coating composition and illuminating it with light of a first intensity, the coating composition appears colored according to the absorbance of light by the colorants of the upper layer and absorbance of light by the light absorbing particles in the lower layer. However, upon illuminating the coating composition at a higher intensity, the coating composition appears differently, namely that the color is dominated by the fluorescent light emitted from the colorant over the absorbance of light by the light absorbing particles. Such a coating composition and a method of its use in creating a color effect is not taught or suggested by the prior art.

In particular, the Bawa patent discloses a contact lens that has fluorescent colorants. The contact lens may be imprinted with a fluorescent dye or may be coated with a fluorescent dye that fixes the dye in or to the polymer of the contact lens. The contact lens may also include, along with the fluorescent dye, an opaque pigment such as TiO₂ or mica particles, conventional opaque pigments. Missing from the Bawa patent is any teaching or suggestion to apply a two-layer coating composition to a substrate. At best, a single coating composition containing the fluorescent dye and the optional opaque pigments can be applied as a mixture to the contact lens. There is no upper layer that includes a binder and colorants

that emit fluorescent light and a lower layer that includes a resinous binder and light absorbing particles. Not only are there no light absorbing particles, but the optional opaque pigments of Bawa are not present in a lower layer. The contact lens of Bawa could not exhibit a first color appearance at one light level and a different color appearance at a second light level. There are no light absorbing particles that dominate the absorbance of light at a first light level and which then are dominated by fluorescence of the dyes at a second light level. The only additional particle optionally included in the contact lens of Bawa is a reflective pigment such as TiO_2 or mica which are not light absorbing particles per the present invention. In fact, Bawa describes using a reflective pigment, particularly to attenuate light reaching the schlera of the eye, which is counter to the limitation in claim 1 of the present application that the coating composition includes light absorbing particles. One seeking to enhance light absorbance (to produce a color effect) would not look to a reference that teaches to use reflective or opaque particles to attenuate light.

As to claims 10 and 11 directed to a coated article, having the coating composition of claim 1, there is no upper and lower layer in the contact lens of Bawa which would direct one skilled in the art to position a lower layer containing light absorbing particles in a resinous binder on a substrate, the lower layer then being covered by an upper layer containing fluorescent colorants and a resinous binder. Again, the Bawa patent does not consider a two-layered coating on any type of substrate. Moreover, Bawa does not consider any plurality of layers as is required in claim 11, namely an uncolored third layer overlying the upper layer. Accordingly, claims 1-17 clearly define over the Bawa patent.

Claims 1, 2, 10-13, 16 and 17 also define over the Hayes patent for the following reasons. The Hayes patent is directed to a fluorescent ribbon that is applied to a substrate such as paper. The fluorescent ribbon includes an upper layer containing a waxy material and fluorescent materials. A lower layer contains wax with a "barrier coat pigment". The barrier pigments include nacreous pigments, mica platelets coated with titanium oxide and/or iron oxide. These pigments contain transparent platelets of high-refractive index and have a lustrous appearance. As such, the barrier coat pigments are reflective pigments as indicated in Figs. 6 and 8 of the Hayes patent showing reflection of light by the barrier coat pigments. While the Hayes patent describes a ribbon which may be applied to a substrate having an upper layer that includes fluorescent dyes and a wax layer which would emit visible fluorescent light when exposed to visible light, there is no lower layer that includes a resinous binder and light absorbing particles. The lower layer of the fluorescent ribbon described in the Hayes patent includes a wax material and light-reflecting particles.

Not only is the structure of claim 1 absent in the Hayes patent, the Hayes patent teaches away from the same. The reflective barrier coat pigments in the lower layer of the Hayes patent are included to avoid absorbance of light. As such, the fluorescent ribbon of the Hayes patent cannot exhibit a first color appearance dominated by absorbance of light by the fluorescent colorants and any light absorbing particles, much less exhibit a second color appearance dominated by the fluorescent light of the colorants. In addition, there is no motivation in the Hayes patent to provide a coating composition or create a color effect in a coating composition with two different colored appearances. The goal of the fluorescent ribbon of the Hayes patent is to enhance the reflection of light and production of fluorescent light from the ribbon. No color effect is considered as desirable in the Hayes patent. Accordingly, claims 1, 2, 10-13, 16 and 17 define thereover.

In addition, claims 1-4, 7, 8 and 9-11 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 13 and 14 of copending Application No. 10/661,964. The Office Action incorrectly states that those claims of the '964 application also claim an upper layer of a binder and fluorescent colorants and a lower layer of a binder and "light absorbing particles". Claims 13 and 14 of the '964 application are directed to a coated article having the coating composition of claim 1 of the '964 application where fluorescent colorants are present in a first layer and reflective pigments are present in a second layer underlying the first layer. Claims 1-4, 7, 8 and 9 of the present application are directed to a coating composition having an upper layer with fluorescent colorants and a lower layer with light absorbing particles. Light absorbing particles and reflective pigments are very different materials with very different effects on light. As such, the obviousness-type double patenting of claims 1-4, 7, 8 and 9, along with claims 10 and 11 directed to an article coated with the coating composition of claim 1, should be withdrawn.

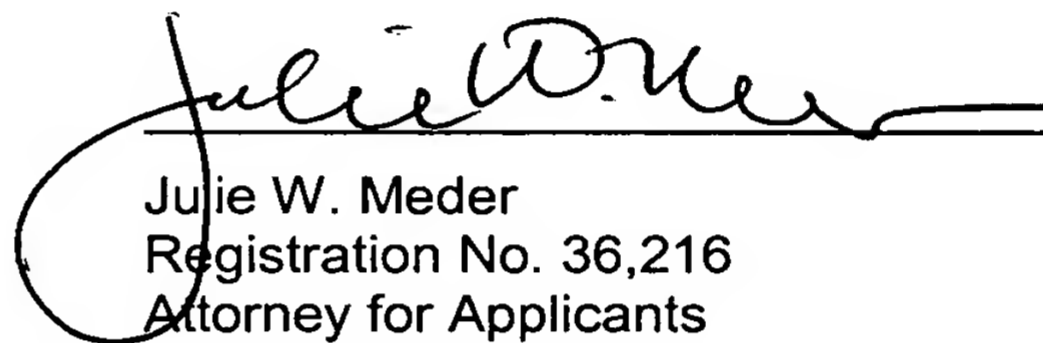
Application No. 10/662,077
Responset Dated October 1, 2004
In Reply to Office Action dated July 1, 2004
Confirmation No. 9797
PPG Case No. 1887A1
Attorney Docket No. 3152-025114

In view of the foregoing, claims 1-17 are believed to define over the prior art and be in condition for allowance.

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October 1, 2004